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AMERICAN PRACTITIONER:

A MONTHLY JOURNAL OF

MEDICINE AND SURGERY.

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THE AMERICAN PRACTITIONER:

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THE AMERICAN PRACTITIONER.

JANUARY, 1874.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

TOLERANCE OF DISEASE.

BY AUSTIN FLINT, M. D.,

Professor of the Principles and Practice of Medicine and of Clinical Medicine in Bellevue Hospital Medical College.

The use of the term *tolerance*, as applied to parts of the body separately and to the body as a whole, is not novel. The term not infrequently enters into medical writings and conversation. It has the same sense here as in other applications; it means the "power or capacity of enduring." Strictly the term implies in the subject, or in that which tolerates, consciousness and will; and there is a mental tolerance of disease, the consideration of which belongs to psychology. In the medical sense of the term the mind is only one of a number of elements. When we speak of the tolerance of disease by the body as a whole we regard the organism, which is but an aggregation of organs and functions, in the light of an entity; and when we say that such or such a part of the body shows tolerance, or otherwise, we consider this

part as having a separate individuality. It has always been the fashion in medicine to use language which implies that an immaterial principle, distinct from the mind or soul, is inherent in the body of man and in all organized bodies; a principle corresponding to the archæus of Valentine, Paracelsus, and Van Helmont. And so since the time when diseases were considered to be the work of demons, or evil spirits, it has been the custom to personify them, and to invest them with divers sentiments and passions, such as mildness and malignity, obstinacy, rebelliousness, etc. I will not stop to inquire into the reasons for so doing or to moralize thereon. Suffice it to add that this use of terms is often convenient; and at this day, inasmuch as it is understood they are used figuratively, there is little danger of the understanding being thereby imposed upon. The phrase *tolerance of disease* therefore is sufficiently sanctioned by propriety and usage.

I adopt the name *tolerance* to express an important principle in medicine. Limiting attention to the body as a whole, or the organism, I shall consider *tolerance*—the power or capacity of enduring disease—as a principle which it is convenient and useful to recognize as such, and I shall offer considerations which show its importance in relation to prognosis and therapeutics.

To illustrate this principle, let a disease be selected which in itself—that is, irrespective of complications, antecedent or intercurrent affections and accidents—may or may not prove fatal. Let the disease be acute pneumonia, sufficiently extensive to place life in more or less danger. Suppose a series of cases of this disease with the qualifications just stated; the patients of the same age and size; the conditions of general health and strength of constitution, so far as it is possible to judge, similar; the measures of treatment uniform, and no important diversity in any extrinsic circumstances: clinical observation warrants the assertion that of such a series of cases in some the disease will end in death, and in some

recovery will take place. Why is this? There is in addition to all the apparent points of similitude an agency, a factor, an element, or an unknown quantity, and this is *tolerance*. In such a series of cases there is a difference in the power or capacity of enduring; and hence while some patients succumb to the disease others triumph over it. I selected pneumonia simply because it was the disease which first came into my mind. What is true of this disease under the view just presented is equally true of other affections. Take as another example one of the essential fevers. Let it be typhus fever. Under in all respects identical circumstances, intrinsic and extrinsic, so far as we can appreciate them, one patient will die and another patient will recover, because the one has sufficient and the other not enough tolerance to pass through this disease safely.

The question at once arises in what the tolerance of disease consists; but, by way of preparing to consider this question, let us first inquire how diseases destroy life. Naturally we are led to apply this inquiry to acute and to chronic diseases separately. Certain acute diseases are fatal because they are seated in vital organs, and compromise the functions of these organs sufficiently to destroy life. Examples of this are some rare cases of acute pneumonia and pleurisy, cases of pericarditis and of meningitis when inflammatory changes or products affect the portion of the nervous center which is essential to respiration. The events which are incidental to certain cases of disease may occasion death. Examples are either submucous infiltration or exudation in laryngitis, and heart-clot in pneumonia and other affections. Exclusive of these two explanations of death from acute diseases, they kill because, to quote common expressions, "the powers of life give way," "the vital forces are exhausted," "nature can no longer hold out," etc. There was significance in the report of the cause of death in a certificate from a practitioner in this city to the board of health, some years ago, namely,

"She died because she could not live!" This, in fact, is the rationale of death in the majority of the fatal cases of acute disease. Patients die because their tolerance is inadequate to carry them through the course of disease and the processes of restoration. An acute disease which does not involve irremediable lesions of organs essential to life, and which is without incidental events compromising fatally vital functions, will end in recovery, provided what we are accustomed to call the "powers of life," the "vital forces," or "nature" be sufficient to withstand the disease. In other words, recovery under such circumstances is a question of tolerance. If the patient can tolerate the disease for a sufficient length of time, the ending is in recovery; if tolerance give out, the ending is in death.

Chronic diseases, when they destroy life, generally involve structural changes, which are dangerous in proportion to their seat, character, and extent. Seated in vital organs, and incapacitating these for the performance of their functions, a fatal result is the consequence of this effect. If, however, the parts affected are not immediately essential to life, and if there be no incidental events interfering with vital functions sufficiently to cause death, here, as in acute diseases, a fatal ending is due to want of tolerance. What was said of acute holds true of chronic diseases in all respects, provided the latter admit of recovery; that is, chronic diseases which do not involve incurable lesions, and which do not of necessity compromise the functions of vital organs sufficiently to cause death, will end in recovery provided there be an adequate amount of tolerance; and, on the other hand, they will sooner or later end fatally if there be a deficiency in tolerance. But suppose, what is often true, that there are incurable lesions seated either in vital organs or elsewhere; the reliance is upon tolerance for the continuance of life with such a measure of health as is possible with the existence of the lesions.

Here opens up a highly important aspect of my subject.

Every one who has had considerable clinical experience must have remarked the wonderful difference in different persons as regards the tolerance of chronic diseases. Take a disease which from its frequency affords numerous illustrations, viz., pulmonary phthisis. A patient may die with this disease after a few months, and the amount of local mischief be no greater than that which another patient will tolerate for more than a quarter of a century! Nothing can be more unreliable than the general condition of the patient; that is, the aspect, weight, muscular strength, etc., as representing the extent to which the lungs are involved in cases of phthisis. The contrast between the so-called rational symptoms and the physical signs is often surprising. This is a matter of common observation, and I need not dwell upon it. Certain cases of organic disease of the heart furnish striking illustrations of tolerance. It is truly astonishing how long and how well valvular lesions with enormous enlargement of the heart are sometimes tolerated. I might in like manner cite in illustration of this aspect of tolerance other chronic incurable diseases, including cancer, seated in any of the organs of the body.

I revert now to the question, In what does tolerance of disease consist? It is a well-known fact that acute diseases are often not so well tolerated by those who appear to have robust health as by those who seem comparatively feeble. A man in the prime of life, with strong muscles, and whose aspect is typical of vigor, may succumb to an affection which a weak old woman endures with comparative ease. Hence it is that physicians have frequent occasions to repeat the familiar adage of the twig, the oak, and the whirlwind. Now, in explanation of this fact, one of two things is to be supposed: either in the case of the apparently vigorous patient there are occult morbid conditions which render the task of tolerance greater than in the case of the comparatively weak patient, or there is less power of endurance. There

are considerations which render the latter the more probable explanation. We notice the same apparent incongruity in the ability to endure prolonged muscular exertions, exposure to cold, and other hardships in health. The experience of military life is that in trials of endurance soldiers who are slender and delicate in appearance are often the most reliable. The privations of long voyages, exploring expeditions, pioneer life, etc., are borne not infrequently as well by those who seem to have tender constitutions as by those of stronger mold; and in shipwrecks women and children have been known to survive hardened seamen. This ability to endure in health it is customary to refer to a something which is called *stamina*. In what this stamina essentially consists we can not say; our knowledge does not enable us to explain it. It is convenient to personify it, and it is therefore spoken of as if there were really such an entity. This physiological principle which we call stamina is the analogue of the pathological principle of tolerance. As we can not explain the former, so in what the latter essentially consists we can not say. This comparison goes to show that when the apparently strong succumb to diseases which the comparatively feeble are able to endure, the fact is due not to occult morbid conditions, which are greater in the strong than in the weak, but to a lesser degree of tolerance in the former than in the latter.

Admitting that in what the tolerance of disease consists is not with our present knowledge fully understood, we know somewhat of its laws and of the circumstances which on the one hand promote and on the other hand impair it. This knowledge is of great importance, and it therefore claims our consideration. The tolerance of certain diseases has laws relating to age. For example, the tolerance of typhus fever is greater between ten and twenty years of age than at other periods of life. While from ten to fifteen per cent of persons of between ten and twenty affected with this disease die, it

kills one half of those who have it after fifty years of age. Typhoid fever is best tolerated between ten and fifteen years of age, and better between five and ten than after the age of fifteen. Small-pox is tolerated badly by children and the aged. The tolerance of acute pneumonia is much less in childhood and in old age than between these extremes of life. I cite these instances as illustrations to which many more might be added. The tolerance of certain diseases has relation to sex. Women, for instance, tolerate typhus fever better than men. The tolerance of certain morbid conditions is greatly affected by habit. A striking instance of this is the ability to bear uræmic poisoning if the accumulation of urea in the blood takes place gradually. A rapid accumulation may occasion sudden coma (apoplexy) and speedy death, the patient perhaps having been conscious of no ailment up to the moment of the apoplectic seizure; whereas, if the accumulation be gradual, coma and convulsions may not take place for a long time after the manifestations of minor uræmic phenomena. It is probable that the ability to tolerate urea is acquired by habit precisely as the habitual use of narcotic drugs enables persons to take with impunity enormous doses. The exposure to the special causes of various diseases within the limits of that amount of exposure necessary for their development induces, as is well known, an ability to tolerate these causes to any extent. This is the philosophy of what is called *acclimation*. A native or one who has long resided in a yellow-fever zone without ever having had yellow fever, is protected against it by having acquired tolerance of its special cause; in other words, he has become acclimated. Tolerance of the special causes of certain diseases comes with age; thus the contagion of scarlet fever very rarely causes the disease in the middle and advanced periods of life, and after fifty years of age, as a rule, the special cause of typhoid fever is inoperative. In fact, the expression *tolerance of the causes of disease* embodies all that we know, or rather it is

an acknowledgment of our ignorance, of the rationale of the wonderful fact that certain diseases are experienced but once in a life-time. Why the eruptive fevers—typhus and typhoid and yellow fevers—leave an insusceptibility in the organism to the special causes of these diseases is, with our present knowledge, a marvelous mystery. To say that this insusceptibility is in consequence of an acquired tolerance of the special causes is, of course, only to state the fact in different terms.

The laws of the tolerance of disease which have been mentioned are alike incomprehensible and beyond our control; but there are circumstances on the one hand promoting and on the other hand impairing this tolerance which are to a certain extent both comprehensible and controllable. Knowledge of these is especially important. In acute diseases which prove fatal through lack of tolerance this is promoted by those circumstances which, it is customary to say, tend to maintain the powers of life; and first in rank among these circumstances is the ability to ingest, to digest, and to assimilate food. Favorable hygienic conditions promote tolerance; namely, pure air, proper regulation of temperature, cleanliness, etc. *Per contra*, circumstances which are the opposite of these—namely, inability to take food or to appropriate it, and unfavorable hygienic conditions—impair tolerance. Moreover, events in the course of disease which are depressing, debilitating, or perturbing tend to impair tolerance; such as mental apprehension or discouragement, hemorrhages, vomiting, diarrhea, etc.

This statement respecting acute holds true equally in chronic diseases. In the latter, as in the former, the circumstances first in importance as promoting tolerance are those which are conducive to assimilation and nutrition. Hygienic influences, mental and physical, which tend to increase constitutional strength and vigor are important; and the reverse of these, together with depressing, debilitating, and perturbing events,

impair tolerance. The dependence of tolerance on these circumstances is sufficiently evident in cases of all chronic diseases, but the fact is strikingly exemplified in certain cases of organic disease of the heart. A robust-looking man wishes an insurance on his life, and he comes before a medical examiner with a proud consciousness of perfect health. He has always been well, excepting an attack of acute articular rheumatism some fifteen or twenty years back. He is between forty and fifty years of age, and in answer to an inquiry he says that of late he has noticed some want of breath on walking fast or mounting stairs; but this he attributes to his having grown somewhat corpulent, and to his sedentary habits. The examiner notices perhaps some irregularity in the pulse, and on auscultating the præcordia he finds a loud mitral presystolic and regurgitant murmur. He finds the apex of the heart lowered to the sixth intercostal space, and situated considerably to the left of the linea mammalis. He is obliged to reject him, of course, as a candidate for life-insurance, and the man discovers that he is rejected in consequence of disease of the heart. He is astonished, or perhaps indignant; and it may be that he is to be congratulated if, contenting himself with a few expletives, he dismiss the matter from his mind, or if he conclude that his own consciousness is more trustworthy than the doctor's stethoscope.

This is a sketch of cases which are by no means infrequent. What is the sequel? This man had at the time of his application for a life-insurance a good appetite and a fine digestion. Aside from the organic affection of the heart, all the important organs of the body were sound and their functions were well performed. His habits of life were good, and his spirits were buoyant. We will suppose that some months afterward he goes into the country, in the month of July or August, for a little relaxation and rural enjoyment. He gets intermittent fever, he loses his appetite, and his blood becomes impoverished. He now suffers from want of breath on slight

exercise; soon he is unable to lie down on account of dyspnoea; his extremities became œdematous; hydroperitoneum and some hydrothorax follow. He is relieved by diuretics, digitalis, and tonic remedies. The dropsy disappears, and he resumes his avocations. He is not, however, the man he was before. He can take but little exercise, and he sleeps badly. His digestive organs do not recover their wonted functional capacity. He becomes despondent. It is not long before dropsy returns. He is obliged to sit up night after night on account of dyspnoea dependent on imperfect circulation, hydrothorax, with perhaps pulmonary œdema. Judicious measures of treatment procure only temporary relief, and he dies after weeks or months of intense suffering.

Now what is the rationale of such a history? Briefly this: he had had valvular lesions, with enlargement of the heart, for years before it happened to be discovered at the examination for a life-insurance; but the lesions had been gradually produced, and progressed slowly. He had become habituated to the comparatively little disturbance of the circulation which they occasioned, and he was conscious of no malady. In other words, under the conditions stated—namely, a good appetite, a fine digestion, and no intercurrent affection—he tolerated perfectly the cardiac lesions. The conditions of tolerance were changed when he suffered from malaria and defective alimentation. Under these changed conditions as regards tolerance he began to suffer from the effects of the obstructive and regurgitant lesions in conjunction with a weakened heart. The former power of the heart's action was never regained; but, on the contrary, with diminished appropriation of food and poor blood, the organ became progressively weaker and more yielding to the pressure from the contents of its cavities; hence dropsy, dyspnoea, and at length death from failure of the heart's action.

It would be easy to present hypothetical cases of other chronic diseases in illustration of circumstances which on the

one hand promote and on the other hand impair tolerance; but, without dwelling longer on this division of my subject, I pass to some considerations relating to the practical applications of the principle of tolerance to prognosis and therapeutics.

Every practicing physician knows that accuracy of diagnosis, although indispensable, is not alone adequate as a basis of positiveness in prognosis. Let us be ever so sure of the nature of a grave acute disease—an essential fever or an inflammation—let the diagnostic evidence be as complete as possible in regard to its degree, the extent to which parts are affected, the stage, together with a full knowledge of any existing complications; add to this an acquaintance with all that is known respecting the intrinsic tendencies of the disease, of its laws, and the results of statistical researches into its rates of mortality; there is still remaining that imponderable element which we call tolerance, on which, in individual cases, hinges the question as to death or recovery. One patient will die because he lacks a sufficient amount of that vital stamina which carries another patient safely through the disease. Hence the proverbial non-committalism of those physicians who regard as an unworthy trick an attempt to gain credit for superior acumen by means of a lucky hit at guessing. In like manner, to determine with precision the duration of life in cases of chronic diseases which must sooner or later prove fatal is beyond the bounds of scientific prescience. In addition, however, to laws and circumstances already adverted to, there are certain considerations which, as experience has taught, are to be taken into account in estimating tolerance. Habits of intemperance, for example, aside from the affections directly attributable thereto, diminish the ability to endure either acute or chronic diseases. This is also true of prolonged over-tasking of body or mind; other words, “wear and tear.” Tolerance is affected in no small degree by the mental temperament, in respect of which

different persons differ widely. A determined resolution to overcome disease often aids not inconsiderably in effecting recovery, and also promotes tolerance where recovery is impossible. On the other hand, apprehension and despondency have an opposite effect. These, with other considerations which might be added, enter into prognosis as connected with tolerance. They are considerations which bear upon prognosis in advance; that is, in the early stage of diseases. To determine the present condition as regards tolerance in cases of acute or chronic disease is more easy. By means of existing symptoms we can gauge tolerance with considerable positiveness. In acute diseases the circulation, as represented by the pulse, furnishes the symptoms which have the most significance in this aspect. In cases of acute diseases which kill from want of tolerance the mode of dying is by asthenia or exhaustion. Now, the pulse may be said to be the thermometer of the vital powers. Failure of these—that is, the giving way of tolerance—is denoted by feebleness and frequency of the pulse, assuming that these characters are not dependent on heart-lesions. Muscular prostration comes next as denoting impaired tolerance. It might be supposed that a high temperature of the body is to be considered as a sign of failing tolerance, but it seems more rational to regard this as causative rather than indicative of ebbing vital powers. In cases of chronic disease defective tolerance is shown by impairment of the forces carrying on the circulation, together with muscular debility and progressive emaciation. Skillfulness as a prognostician in cases of acute and chronic diseases depends on the ability to judge of tolerance by means of these criteria, in conjunction with the laws, circumstances, and considerations before referred to.

The application of the principle of tolerance to therapeutics is the more important of the practical aspects of the subject. In acute diseases, the danger relating chiefly to asthenia, generally tolerance is the objective point in the

management. It is an object, in the first place, to avoid measures which will be likely to impair tolerance. Conservatism in medical practice is, in other words, the protection of tolerance. In the second place, it is an object to promote tolerance. Take, by way of illustration, the potential measure, blood-letting. If the protection of tolerance be an important object, this measure is thereby contra-indicated. Assuming that it will procure relief, the ulterior effect will be hurtful in proportion to the degree of danger of dying by asthenia. If, on the other hand, whatever danger there may be is not from asthenia, blood-letting is admissible, even if it be only palliative, provided the same palliation is not obtainable by other means which do not impoverish the blood. Governed by this rule, the abstraction of blood is contra-indicated, for example, in the essential fevers, in which recovery depends on tolerance; but, in view of its promptness and potency, it may be advisable in acute laryngitis, a disease which kills by apnœa.

It is a ready method of forming a judgment concerning the propriety of employing any potential remedy or measure of treatment to propound to one's self at the bedside, in a case of acute disease, the following questions: If this disease prove fatal, will it kill by asthenia or apnœa? If by asthenia, will the remedy or measure of treatment under advisement impair tolerance? If the answer to the last question be in the affirmative, as a rule the remedy or measure will do harm. It may be sufficient in many cases of acute disease to abstain from treatment which would impair tolerance; but if there be reason to fear that the vital powers are inadequate to carry the patient safely through the disease, then the promotion of tolerance becomes an important object of treatment. The means for this end are those which constitute what is commonly called the sustaining or supporting treatment. It is a corollary of facts presented already that alimentation holds the first rank among the supporting measures. Tonic reme-

dies have a certain measure of importance as conducive to tolerance. Alcohol has its place of usefulness here. Without discussing the question whether alcohol be a food or a remedy, and divesting the topic of all moral considerations, that it is an important constituent of the supporting treatment must be admitted. Practically its usefulness as such consists in this: it promotes for a time tolerance; its use is indicated where there is evidence of failure in tolerance; it is often wise to forestall by its use the failure of tolerance; the urgency with which it is indicated is proportionate to the degree of danger from failure in tolerance. The proof of its usefulness is the evidence of increased tolerance without any of the phenomena of alcoholism or excitation. It is superfluous to add that all the favorable hygienic influences, mental or physical, which can be brought to bear upon patients affected with acute diseases tending to death by asthenia are useful by promoting tolerance. Next in importance to the measures which have reference to causative agencies, and those which are directly or specially curative, is to be ranked the protection and promotion of tolerance in the management of those acute diseases of which asthenia is the dangerous element.

In the treatment of chronic diseases how few are the known remedies which are directly or specially curative! We have some such remedies. Quinia and arsenic in malarial affections and in certain cases of neuralgia, mercury and the iodide of potassium in syphilis, the bromides in epilepsy, at once rise in the mind and bear testimony to the truth of this assertion. But it would be difficult to extend the list much. In most cases of chronic disease ending in recovery the result is not due to a direct or specially curative medication. We personify a fictitious entity when we attribute cure to nature or the *vis medicatrix nature*; yet it by no means follows that we are only passive spectators when our patients get well, and we can not assume to have controlled the disease by drugs. Drugs indeed often do much toward cure, although

their action be not directly or specially curative. They procure palliation or relief of suffering, and they may be indirectly of great use by promoting appetite and digestion, supplying important constituents to the blood, favoring the elimination of noxious principles, etc. Operating in these ways, they may be said, in a certain sense, to do good by affecting favorably tolerance. In so far as tolerance is favorably affected, recuperation is facilitated; and here, as in acute diseases, next in importance to curative medication (whenever this is practicable) is to be ranked the protection and promotion of tolerance.

In the treatment of those chronic diseases which are incurable tolerance is pre-eminently the objective point. If a cure is not to be effected, the ends of treatment are, first, to prolong as much as possible the duration of life; and second, to render life as comfortable as possible notwithstanding the continuance of disease. These ends are far from being trivial. Shall a patient live for a few months or for many years? is a question the answer to which may depend on the knowledge and skill of the physician. This fact is not perhaps always sufficiently appreciated in medical practice. The recognition of incurable diseases is of prime importance. Herein diagnostic ability is essential to a rational management; and a rational management consists on the one hand in the avoidance as far as may be of every thing which impairs, and on the other hand in the judicious employment of measures which promote, tolerance.

All are familiar with the following maxims of Chomel, which have become classical: The proper aim of the physician is, first, not to do harm; and second, to try to do good. The physician is not to treat diseases, but patients affected with diseases. The former of these maxims inculcates, in other words, the protection and promotion of tolerance as a fundamental rule in the practice of medicine. The latter maxim inculcates this rule with still greater emphasis. In

the treatment of patients affected with diseases, whether acute or chronic, the principle of tolerance should always pervade our thoughts and acts.

NEW YORK.

RUPTURE OF PERINÆUM—SPONTANEOUS CURE.

BY W. W. CLEAVER, M. D.

June 9, 1873, I was called to Mrs. G., twenty years of age, a short, stout, compact, fleshy woman. It was her first labor, and had been in progress twenty-four hours, a midwife having had charge of her, who had given her a fluid ounce of ergot. I found the pains feeble, the patient exhausted, and the child's head firmly impacted in a small pelvis, the face under the pubic arch, and the vertex to the right acetabulum. A stimulant was given, friction over the abdomen used to excite uterine contractions, and I applied forceps. After an hour's faithful and difficult effort I succeeded in extracting a living child, evidently arrived at full term, and having a very large head and broad shoulders. The placenta was soon delivered. Upon examination I found the perinæum completely ruptured, the rent extending through the sphincter ani and into the rectum. As it was night, and I was seven miles in the country, I gave the patient an opiate, and decided to postpone an operation until the next day.

June 10th, with Dr. Ely McClellan, whom I had invited to operate, and Drs. Hopper and Avritt, I visited my patient. We found her in excellent condition, and upon consultation it was determined to wait and make a secondary operation. An examination was made, however, proving that I was not mistaken as to the extent of the injury. The patient was placed on her back, the bladder emptied by a catheter, the

knees approximated, and opium given to prevent action of the bowels. For a few days I continued my attendance, using the catheter as required, and then left her in the sole charge of her mother. In twenty-six days she was out riding. At the end of the fifth week Dr. McClellan and I visited her for the purpose of arranging for the operation. Upon examination we were surprised to find that a *spontaneous cure* had occurred. A perfect cicatrix showed the extent of the perineal injury that had been repaired. The sphincter ani had been completely restored, and the contents of the rectum could be entirely retained. This patient takes frequent rides on horse-back, and states that she is perfectly well.

Authorities differ as to immediate or secondary operation in cases of ruptured perinæum, one of the alleged objections to an immediate operation being the injurious action of the lochial discharge upon the union of the torn surfaces.

This is the first case of perineal rupture I have met with; and notwithstanding the objection just mentioned, and notwithstanding the extraordinary result accomplished by nature in the case which I have narrated, should I meet with another case I would operate at once.

LEBANON, KY.

A CASE OF IMPACTED GALL-STONE.

BY H. R. HOPKINS, M. D.

J. G. S., aged forty-eight years, of nervo-bilious temperament, active habits, always a good liver, with occasional excessive indulgence in both eating and drinking, was attacked on the morning of the 15th of October last with intense pain, referred to the lower portion of the right hypochondriac region. I saw him about 9 A. M., and diagnosed a passing

gall-stone, having seen him in several similar attacks, one five days previous. He was ordered hot applications to abdomen and extremities, and had a hypodermic injection of one half a grain of sulphate of morphia, this having given complete relief in the previous attack.

I saw him again at 1 P. M. The pain had steadily increased in intensity until it was now overwhelming; is cold, shriveled, and almost pulseless; respiration jerky, at 40 per minute, with pupils in a dark room contracted to the size of a pin's head. The pain is excruciating at all times, but with distinct paroxysm, which he can feel coming on, but which soon uses him up too much for complaints. Several times during the afternoon we thought him dying. I now sent for assistance, had him inhale chloroform, take aromatic spirits of ammonia and brandy, and continued the hot fomentations and applications. He seemed somewhat relieved from pain at 6 P. M., but suffered considerably until 4 A. M. of the 16th, when he wakened from a short sleep, saying the pain was all gone, and never complained of the peculiar pain which he thinks he is quite able to recognize from having endured it at least a score of times.

On the 16th and 17th he was greatly prostrated, with tenderness over the hepatic region, great thirst, scanty urine very dark in color, and constant vomiting of whatever has been taken; complains only of thirst and of being "so very tired."

On the morning of the 18th icterus was marked, and increased in intensity until the skin was as dark as mahogany; pulse 120 to 130; respiration 30 to 40; thirst less intense; vomiting occasionally.

During the morning of the 19th obstinate hemorrhage from the nose came on, which could not be controlled by anterior plugs of tannin, but was held in check by posterior plugs of tannin and anterior ones of persulphate of iron. Condition otherwise the same as on the 16th.

On the morning of the 20th he began vomiting partially-digested blood; attacks occur every twenty or thirty minutes, and the amount thrown off will not vary much from a pint.

The prognosis, which up to this time had been "favorable but not without danger," was now changed to "unfavorable, but not without hope." The patient, whose mind has been perfectly clear from the first, on being apprised of the gravity of his situation, gave directions as to the settlement of his affairs, partook of the holy sacrament, and expressed himself resigned to die, but still hopeful of recovery. From this time to the hour of death (3 P. M. of the 22d) there was little change, except the appearance of stupor, slight at first, but increasing so that during the forenoon of the 22d he but once or twice gave evidence of consciousness.

On post-mortem examination, forty-eight hours after death, a stone, seven sixteenths of an inch in its short diameter by one half an inch in length, was found lodged in the common choledoch duct one inch from the duodenum. The gall-bladder was empty, the liver congested generally, and several ante-mortem clots were found in its substance. The stomach was distended to nearly twice the normal size, with the mucous membrane of the pyloric end in a condition resembling ecchymosis. The heart and lungs were normal, the kidneys slightly congested.

The correct diagnosis of this case was not made when the pain ceased on the morning of the second day: it was supposed that the stone had passed. The prostration, thirst, and vomiting of the second and third days were thought due to the violence done the nervous system and to the anodyne given. The icterus was thought to proceed from occlusion of the duct from inflammation caused by the passing stone. The subsequent hemorrhages and stupor were traced to obstruction of the portal circulation and re-absorption of bile from the same occlusion.

Several thoughts were suggested by the appearance of

the stone. In shape it was nearly round, a little elongated, and bore nine distinct facets, quite smooth, which must have been formed by other stones, all of which had passed to the intestine; the last five days before the attack, and the next four years before that, from which time he could remember attacks as far back as twenty years.

The fact of all these facets being smooth suggested to my mind that the stone was not formed by aggregation; and I verified this thought by breaking the stone, it breaking into pyramidal pieces having their apexes at the center of the stone, the line of cleavage being always a radius of the sphere. Another suggestive fact was the condition of the gall-bladder, it being empty. To my mind this could only be accounted for by post-mortem transudation, but was surprised to find it so complete.

I should be pleased to hear through the American Practitioner if cases have been reported of patients living this length of time—one week—with impacted gall-stones, and if for five days of this time no complaint of pain was made. My patient took two doses of anodyne; one, referred to above, on the 15th, and one on the 18th, for general uneasiness, without absolute localized pain.

BUFFALO, N. Y.

DYSMENORRHŒA.

BY WALTER COLES, M. D.

All who have had any experience in gynecology must acknowledge that dysmenorrhœa is one of the most common and perplexing maladies with which they meet. It might be inferred, from the confident spirit in which many celebrated authors have spoken of this affection, that its pathology was

already settled, and its treatment plain and successful. But such is far from being the case, either in respect to the one or the other. The gravest errors, committed by some of our leading gynecologists, have in our judgment been connected with this subject.

We propose in this paper to offer a few reflections, based in large part upon our own observations, more especially with reference to the pathology of certain phases of the disease.

Dysmenorrhœa is our general term for a morbid condition susceptible of division into several varieties, and embracing every degree of painful menstruation, from a slight uneasiness to the most excruciating agony. One leading American author, who generally expresses himself with great clearness, divides dysmenorrhœa into five varieties—*neuralgic, congestive, inflammatory, obstructive, and membranous*. Dr. Simpson divides the disease, according to the seat of pain, under two heads—*ovarian and uterine*. In respect to these two divisions he remarks: "I think we must come to the conclusion that while there are some cases of dysmenorrhœa where the neuralgia is localized in the ovaries, yet that in the greater number of cases it is developed and has its peculiar seat in the uterus itself."* While entertaining the profoundest respect for the opinions of this distinguished author, we will venture to say that this observation is at variance with our own. Our experience has been—and we think others will bear us out in it—that the pain in the majority at least of the most aggravated cases of dysmenorrhœa has seemed to be rather in the ovarian than in the uterine regions. Uterine pain is generally referred either to the organ itself, or else to the lower part of the back and hypogastrium; and while such pains in a moderate degree are common in the better class of our women, they frequently do not rise to the dignity of a dysmenorrhœa; and besides, they are more or less frequently present during the interval between the periods. Throwing out of consideration these

*Clinical Lectures on Diseases of Women, p. 96.

minor cases then, and coming to those dysmenorrhœas demanding treatment, we find a large proportion of them—a majority of them—referred to the ovarian and fallopian region. The time of appearance, duration, locality, and character of the pain is a matter of importance, and should be studied closely in each individual case, as it may often aid us in forming a judgment as to the nature of the difficulty and the treatment proper to be pursued.

In respect to frequency, we believe that the different varieties of dysmenorrhœa occur in about the order in which we have named them, the most frequent being the form commonly known as (1) neuralgic, (2) then congestive, (3) inflammatory, (4) obstructive, (5) membranous. It will be seen that *obstructive* dysmenorrhœa is placed *fourth* on the list; and whatever may be said of the relative frequency of the several other forms, it must be admitted that the obstructive variety is much less common than was taught by Macintosh and Sims, and the practice of incising the os and cervix for its relief has not been generally attended with the success the latter claims for it. The practitioner who goes forth armed with a hysterotome, and expects to wage a war of extermination against this troublesome and in many instances obscure malady, is destined to frequent and sore disappointment. That constrictions both of the canal of the cervix and of the os tinæ and os internum, either congenital or acquired, or as the result of an abrupt bending or flexure of the neck on itself, do frequently exist, is true, and in such cases artificial enlargement or straightening of the canal produces the happiest results. But it not unfrequently happens that cutting operations are performed for dysmenorrhœa when no obstruction exists, and the relief obtained, if any, is but temporary and delusive, the suffering returning after a few months with all its original intensity. The temporary relief in these cases, so frequently prematurely pronounced *cured*, is doubtless due in many instances to a mistaken diagnosis, a congestive or inflammatory dysmenorrhœa

having been temporarily alleviated by the local depletion. The fact is, it is no easy matter to determine in all cases just when stricture of the internal os exists. That the probe should meet with decided obstruction at this point is natural, and if the uterus be in position and the constriction moderate, this fact is rather a sign of health than disease, for it is well known that in certain of the chronic corporeal inflammations the normal narrowing of the os internum disappears. It frequently happens in the healthy virgin womb that though great difficulty be experienced in passing the sound, yet menstruation is normal and the person apt for impregnation. All of which goes to indicate that we should be cautious in attributing either dysmenorrhœa or sterility, when no decided stricture exists, to mechanical causes, but should seek first for other sources of trouble before operating. Happily the most frequent form of simple stricture in the nulliparous woman is at the os externum, where it can be easily detected and remedied.

When there is *flexion*, although women have menstruated without great inconvenience, and even conceived during its existence, yet such instances are extremely rare, and mechanical interference is imperatively demanded. When dysmenorrhœa is due to *retroflexion* it can frequently be relieved by a properly-adjusted pessary and judicious therapeutic means. Of late we have employed with much satisfaction the retroversion pessary of Thomas, which on some accounts we prefer to the well-known instruments of Hodge, Smith, and others. On the other hand, when obstruction is due to *anteflexion* we have little faith in any of the mechanical contrivances for its relief. Anteversion pessaries are well enough in *theory*, but in our hands they have proven very unsatisfactory. The only thing to be done in the vast majority of these cases, where mechanical treatment is absolutely demanded, is to employ the knife. This affords the speediest and most satisfactory method of curing not only the dysmenorrhœa, but of relieving

the complicated train of nervous symptoms so often attendant upon this condition.

These cutting operations are not as reliable for the cure of the sterility frequently co-existing in these cases as we believe they might be if more care were bestowed not only in preparing the patient for the operation, but in the subsequent treatment. Careful after-treatment is absolutely imperative in these cases, if we would reap the full reward of the operation. For if it be neglected, not only does the woman continue sterile, but she may gradually relapse into a new and graver form of dysmenorrhœa, dependent on congestion or inflammation. These injunctions are the more important when we bear in mind the well-known tendency of uterine flexions to produce grave inroads on the health, both physical and psychical. The uterus is also liable to be altered in structure and congested, with more or less endometritis and peri-metritis. These conditions should be relieved as far as possible by rest, etc., before operating;* and when the operation is performed it is important that the woman be kept in her bed until the cut is healed. The mode of dressing these incisions varies with different operators. The simplest and best we have tried is recommended by Skinner, of Liverpool. He passes a soft piece of muslin, three inches in diameter, on the point of a probe into the cut, leaving it firmly in position, thus preventing the possibility of hemorrhage or reunion by a wedge-shaped plug, which is not renewed until suppuration has commenced; after which a similar dressing soaked in carbolized oil or glycerine is re-applied daily until healing is complete. Such management is much more surgical than the introduction of sponge-tents and metallic dilators to preserve the patulency of the opening. This simple plug answers at once the office of a dilator and a benign dressing, under which the wound heals rapidly. When

*See the excellent paper on the "Surgery of the Cervix," by Dr. Emmet, Amer. Jour. Obstet., vol. i, p. 339.

this dressing is no longer required is quite time enough to resort to sounds and dilators to prevent contractions of the cicatrix. There is no good reason why a sore uterus should not be treated on the same common surgical and common-sense principles that dictate the management of a sore finger or a sore shin; and when it is prematurely and too much meddled with after operation harm results, which tends to keep it sore and irritated, and only aggravates any pre-existing endo- and peri-metritis, thus insuring a continuance of sterility, possibly of dysmenorrhœa, notwithstanding the patulency of the canal.

It is to be feared, that these cases are often abandoned as "*cured*" prematurely; too much value being attached to the *operation itself*, without sufficient regard for the after-treatment, which should be persevered in until the womb is healthy. This local after-treatment need not be commenced, however, until the healing of the incision is complete. The practice of following the cut within a few days with iodine, nitrate of silver, etc., is much to be reprehended, and can accomplish only mischief. After the healing of the incision, and until the *next menstruation is past*, simple irrigation with warm or hot water is the most efficient means of allaying all inflammatory action and preparing the organ for such topical applications as may be requisite to complete the cure.

There appears to be a tendency of late years toward *materialism*, if we may be allowed the expression, in dealing with uterine disorders; and thus we are driven to mere mechanical expedients for the relief of fancied mechanical ills. Hence it frequently happens that the gynecologist is pained, after the performance of some operation, to find the evil he would eradicate lies deeper still, out of reach of the knife or of pessaries, in some profound perturbation of the general health. We are satisfied that the influence of the nervous system in uterine pathology generally, and especially in dysmenorrhœa, is underestimated. The uterus is in more or less sympathy

with every organ in the body. Körner and Heidenhain have shown, contrary to the statement of Kolliker, that it and its appendages are largely supplied with nerves and ganglia of the sympathetic; and it is to a better understanding of this system of nerves, its pathology and manifold sympathies, that we must eventually look for the key to many of the changes in nutrition, congestions, menorrhagias, amenorrhœas, chronic inflammations, and other painful derangements of this organ.* Even the act of menstruation itself, concerning which we know so little, when studied in its relation to the ganglionic nerves, may rise from the category of mere mechanical accidents resulting from the rupture of blood-vessels (where most physiologists are content to leave it), and assume a higher place in the scale of organic life. It always seemed to us that to call menstruation a mere *hemorrhage* was derogatory to the dignity of one of the most important bodily functions. This view has ever struck us as out of harmony with the other great and wonderful physiological laws of our being. Its punctual ebb and flow under varying circumstances, its not uncommon subordination to the influence of strong emotions, such as fright, anger, etc., and many other considerations which we will not dwell upon, all tend to indicate that physiology has by no means reached the bottom of this subject.

The late Prof. Meigs, like the large majority of modern teachers, was an earnest advocate of the hemorrhagic theory of menstruation, and as his argument is peculiarly forcible we will be excused for a few quotations. After laying down the proposition that the menstrual fluid consists "in monthly repeated uterine hemorrhage, and nothing more or less," he

* We are satisfied that we have seen several cases of amenorrhœa dependent upon a morbid nervous condition other than chlorosis; and are equally convinced that many apparently idiopathic and obscure menorrhagias, amounting in some cases to serious hemorrhage, over which ordinary modes of treatment exercise little or no control, are also due to a depressed state of the uterine nervous system.

goes on to enforce his position by saying: "It appears to me that no advocate of the doctrine of secreted menstrea will now deny that these discharges do contain a large proportion of true blood, nor that they do coagulate like blood drawn from a vein. I leave it to the student therefore to settle with his own judgment the question, how can blood-disks be the subject of secretory action? Can solids be secreted? Could not a woman as well secrete a watch or a diamond ring as one single blood-disk?"* This is Dr. Meigs's argument, and we doubt not that at the time of its delivery it passed unchallenged; but since that time the microscope in the hands of Cohnheim and others reveals the fact that blood-disks *can* effect an exit otherwise than by rupture of the blood-vessel. Under certain circumstances it is now known that both white and red corpuscles escape with facility through minute pores in the walls of the capillaries. We do not, of course, argue that precisely such migration of corpuscles as is described by Cohnheim in inflammation actually takes place in menstruation, and we only mention the phenomenon to show that the escape of blood-disks otherwise than by rupture of the vessel is not a physical impossibility, as was supposed by Dr. Meigs.

Not being able to bring the lining membrane of the uterus under the microscope in life, we are, of course, ignorant of the mode in which normal menstruation occurs. Virchow remarks† that in some of his experiments with the microscope small solutions of continuity are actually seen to occur in the sides of the capillaries and small arteries and veins, through which single blood-disks escape one by one, while the current flows on uninterruptedly within the vessels, and that after the escape of a certain amount of blood the apertures disappear. He does not specify in what tissues he observed this, but in commenting upon it Hanfield Jones remarks: "I believe that some change of this kind occurs

* Treatise on Obstetrics, p. 147. * *Handbuch der Path.*, vol. i, p. 231.

in normal menstruation, and the relation of the process to lowering of nervous power seems to be unmistakable."*

These remarks on the subject of menstruation may at first sight appear as a digression; but they can hardly be so considered when we bear in mind their possible—yea, probable—bearing on the pathology of dysmenorrhœa. For it is upon a proper understanding of the true physiology of every function that we must base our study of morbid action and enlightened therapeutics.

If we except mechanical dysmenorrhœa, and perhaps a goodly number of the inflammatory type, and a still smaller proportion of the congestive variety, we will still have a large majority of dysmenorrhœas traceable directly or indirectly to nervous disorder, and which can not be radically cured until appropriate remedies are addressed to the foundation of the evil. There is one form of dysmenorrhœa, embracing many of the most terrible and obstinate cases, which, although it has been doubtless embraced under the general head of "*neuralgic*," has not received the attention of authors that it deserves. We allude to a variety in which the chief phenomenon is *spasm*. We would prefer to designate this affection *neurotic dysmenorrhœa*, as it conveys a more correct idea of its pathology and the treatment necessary for its relief. We doubtless frequently have spasmodic phenomena in the purely congestive and inflammatory forms of the disease, culminating in a condition of *chordee* of the uterus and fallopian tubes; but the real pathological basis of the symptom (for after all it is a mere symptom) which we designate as neurotic dysmenorrhœa is not necessarily local in its origin or manifestation. The dysmenorrheal suffering is only one of many co-existent manifestations of ill health and perverted action. Persons thus afflicted are subject to various spasmodic and other neurotic affections in the intervals between their periods; sometimes more or less general, as in hysteria and catalepsy;

* Nervous Disorders, p. 272.

again we find them in the glottis, trachea, pharynx, esophagus, stomach, urethra, and occasionally in the vagina, producing vaginismus. There is more or less tendency to hyperæsthesia and irritability, so that many of the ducts and tubes of the body rebel at their normal office; and it is a fact too much lost sight of that the fallopian tubes may also take on spasmodic action. We believe in many of these cases of so-called dysmenorrhœa that pain is occasioned by spasm of these ducts, and not so much due to the act of menstruation as to its allied function, *ovulation*; the presence of the ovule in the fallopian tube exciting violent contractions in its muscular coats, as does the urine in the urethra (a common complication in these cases), food in the esophagus or stomach, a gravel in the ureter, or a stone in the gall-duct, by which we have set up an excruciating *salpingismus*. We might mention several interesting cases, which we think would demonstrate beyond a doubt the existence of fallopian spasm as the chief element of suffering in many instances. We need only recall the anatomy and physiology of these ducts to understand how this may be, and to form a well-founded suspicion that even sterility may be induced by this spasmodic detention and imprisonment of the ovule in its transit to the uterus.

In concluding an imperfect outline of what we consider the true pathology of certain forms of dysmenorrhœa, as it has presented itself to our observation and reflection, we would sum up our ideas on the subject in two propositions:

First—That mechanical dysmenorrhœa, simple and pure, comprises a comparatively small minority of the cases met with in practice.

Second—That of the remaining cases a large, perhaps the larger, proportion may be traced to other than purely local causes.

We would not be understood as arraying ourselves in any fanatical spirit against surgical treatment in uterine disease.

On the contrary, we would merely put in a plea for conservatism, and decry alike the practice of meddling surgically with every case, and that opposite and scarcely less unfortunate policy of combating mere symptoms with drugs. Having already indicated when cutting operations seem expedient, it is scarcely necessary to discuss the topical means absolutely required to relieve pain and remove congestion and inflammation. This subject is pretty well exhausted in most treatises on uterine therapeutics. Nor do we propose to consume space in the enumeration of measures suitable either for the alleviation of the paroxysm or the cure of this distressing malady; for of the former little need be said, while of the latter so much remains to be considered that it would require a paper ten times the length of this to do the subject justice. It would involve a thorough study of hygiene, electricity, nervines, tonics, alteratives, and in short every agency at our command for controlling nervous and vascular action. The general and local influence of electricity; the constitutional effects of arsenic, iron, phosphorus, and the bromides; the alkaloids, quinine, strychnine, atropine, ergotine, etc., are just beginning to attract the notice they deserve in their vaso-nervine properties, and it is to be hoped that as our knowledge of their physiological action improves our power over such obscure pathological conditions as we have under consideration may become more satisfactory and complete.

ST. LOUIS.

TREATMENT OF DYSENTERY BY LARGE DOSES OF IPECAC.

BY THOS. M. WOODSON, M. D.

The cases I am about to report occurred between the 25th of July and the 15th of August, 1873, and were found in an area of country eight miles long by three wide. Previous to their outbreak a diarrheal tendency had been observed in the same district, which, if not a consequence of, was at least coincident with the prevalence of epidemic cholera in Nashville and Gallatin, Tenn. Agreeably to the rules laid down for the administration of ipecac in such cases, water and fluids of all kinds were denied the patient for two or three hours before and after taking the medicine.

CASE I. A child, aged three years, was attacked on the 24th of July with dysenteric symptoms. On the 25th had frequent discharges of blood and mucus, tormina, tenesmus, and severe fever with frequent quick pulse. Gave ten grains ipecac and ten drops tincture opii at one dose; vomited in one hour. Repeated the same in six hours, again followed by vomiting; the pain and dysenteric discharges promptly arrested after the second dose, patient recovering without other treatment.

CASE II. Stout male, aged forty years, father of first case; attacked August 3d with violent dysenteric symptoms, frequent actions of bloody mucus, tormina, tenesmus, fever, and general distress. Gave one half grain sulphate of morphia, followed in two hours by thirty grains ipecac. Vomited in one hour and fifteen minutes; bowels quiet for twelve hours after taking the ipecac, when dejections became copious, feculent, with no further return of dysenteric symptoms. An attack of fever supervened (of remittent form), attended with

diarrhea. Quinia and opiates soon brought about a good recovery.

CASE III. August 4th saw J. W., robust male (colored), aged thirty years; has had dysentery for thirty-six hours; discharges of bloody mucus, with tormina, tenesmus, and fever. Gave one half grain morphia, followed in two hours by thirty grains ipecac. Vomited four hours afterward. No discharge for twenty hours, and no further dysenteric symptoms or treatment.

CASE IV. A male, aged twenty-five years (colored), attacked August 7th with tormina, tenesmus, and frequent bloody mucus evacuations, fever, etc. Gave one half grain morphia; two hours after thirty grains ipecac in five-grain pills. Vomited twelve hours afterward; no discharge for twenty hours; disease arrested.

CASE V. J. H., stout, healthy female, very fleshy, aged forty-five years, attacked August 7th. Saw her on the 8th; had had upward of thirty discharges of bloody mucus, attended with tormina, tenesmus, fever, thirst, and general aching. Gave one half grain morphia, and thirty grains ipecac in five-grain pills two hours after. Vomited in fifteen minutes; had two small discharges, without blood or pain, during the following twenty hours. Gave two doses morphia, one fourth grain each, six hours apart, which completed the cure.

CASE VI. S. W., female, aged twenty-five years, eight weeks after delivery attacked with dysentery, August 9th. Saw her next day at 6 P. M. High fever; pulse 110; had seventeen discharges of bloody mucus, with great tormina, tenesmus, and general distress, in the last twelve hours. Gave one fourth grain morphia, followed in two hours by twenty grains ipecac in five-grain pills. August 11th, 6 P. M.: Vomited four hours after the ipecac; has had three discharges during the last twenty-four hours—one at 5 P. M., one at 7 A. M., and the last at noon to-day—without pain or bloody mucus; pulse 84; no fever; had one fourth grain morphia at 6 this morning,

and the same at noon. August 12th: No return of symptoms; case dismissed.

CASE VII. R. C., male, aged forty-two years, attacked August 11th with dysenteric discharges, tormina, and tenesmus; had been complaining with diarrhea, loss of appetite, and general languor since the 4th instant. Had fifteen discharges in the last twelve hours; fell exhausted upon the street, and was taken home—eight miles—in a buggy. Saw him first at 10 P. M.; pulse 96, and full; subsequently high fever, preceded by chilliness and distress of limbs. Gave one half grain of morphia, followed in two hours by thirty grains ipecac in pills; vomited in two and a half hours after taking it. August 12th, 4 P. M.: Still has fever; had four actions since midnight; one only dysenteric, the others copious, bilious, feculent, without pain. Took one fourth grain morphia at 6 o'clock this morning, and the same at noon. August 13th, 3 P. M.: Had only two actions since last note; one very copious and feculent at midnight, and at 11 A. M. small, same kind; pulse 60; no fever; free diaphoresis last night; recovered without further treatment. This, though the most violent case, was most prompt to yield.

CASE VIII. Mrs. T., aged forty-eight years, attacked Aug. 12th; had twenty discharges of blood and mucus, with tormina and tenesmus, up to 8 P. M. of the 13th, at which time took one fourth grain morphia, followed by twenty grains ipecac in pills in two hours. Vomited in five hours after. August 14th, 10 A. M.: Had no action for twelve hours; copious perspiration; pulse 65; had no fever; disease arrested; case was dismissed.

CASE IX. W. P., hearty male, aged twenty-three years, attacked August 15th with dysentery; had twenty discharges in ten hours. Gave one half grain morphia at 6 P. M., and thirty grains ipecac two hours after. No vomiting followed; no discharge for twenty-four hours; dysentery arrested. Rode on horseback thirty-five miles next day, and returned on

the 18th. There was a return of dysenteric symptoms on the 19th. Took at 6 P. M. that day one half grain morphia, followed by twenty grains ipecac at 8 P. M. August 20th: No vomiting or return of the disease.

It will be observed that vomiting followed in all the cases but one in from fifteen minutes to twelve hours. This does not accord with other observers, who gave it in large doses, and state that it seldom produced vomiting. The dysenteric discharges were promptly arrested, followed by free bilious, feculent actions, without pain, attended with general relaxation and sense of relief of the entire system, without a return of distressing symptoms. Free perspiration was noted in several cases, with marked relief.

The relaxing and evacuating effects of the remedy upon the skin and mucous membrane of the alimentary canal, directly depleting the engorged capillaries, removing irritating matters, and breaking up the chain of morbid influences, were such as to render it of great value, and restore and maintain its former reputation in dysenteric affections. The morphia, allaying pain and subduing irritation, doubtless was of great service; but that the ipecac was the principal factor I think verified by the fact that other cases during the season treated by morphia alone were more protracted.

A success so uniform as that noted in the small number of cases I have reported, though it could hardly be looked for in an epidemic of dysentery, warrants us, I think, in assigning ipecac in large doses a prominent place among the remedies for this very grave disease.

GALLATIN, TENN.

Reviews.

A Manual of Midwifery: Including the Pathology of Pregnancy and the Puerperal State. Dy DR. KARL SCHROEDER, Professor of Midwifery and Director of the Lying-in Institution of Erlangen. Translated into English from the third German edition by CHARLES CARTER, B. A., M. D., B. S., London, etc. New York: D. Appleton & Co.

American physicians are to be congratulated at having placed in their hands this admirable volume. It is indeed an excellent exposition of the present condition of obstetric science and art. One can not read it without being impressed with the fact of its being fully up with the most recent progress; but also, while not in the least failing in all needful directions for the obstetrician in ordinary cases, it meets his wants better than any work in the English language we know of in extraordinary ones. Whatever the emergency or complication presented, the practitioner finds here plain guidance. The work too is valuable for the bibliographic references given, so that the student can at once refer to many of the contributions to the literature of the special topic under consideration. Withal it is free alike from obscurity and diffuseness, and is published at such a price that any physician can afford to purchase it.

A detailed analysis of the work we can not give; but we shall present a brief extract, not only as an example of the author's style, but chiefly for the valuable practical lesson it conveys. This extract is in reference to the tampon in the hemorrhage from abortion, giving the author's method of applying it—a method from which he states he has always had the best results: "A speculum as wide as possible is introduced into the vagina, so as to get a full view of the

bleeding cervix. Then a large piece of lint is evenly placed over the external opening of the speculum, and upon it other and smaller pieces of lint are placed so as to fill up the speculum to the bottom. While the tampon is pressed against the cervix with a long rod the speculum is withdrawn. There remains then within the vagina a closely-packed tampon contained in a sac of lint of about the thickness of the speculum. If a speculum is not at hand, single pieces of lint must be pressed against the bleeding cervix. A tampon also so constructed renders good service; it is, however, more inconvenient to remove, since each piece has to be withdrawn singly from the vagina.* After the removal of the tampon it can easily be seen that it very effectually stops the hemorrhage; for only at the spot which was pressed against the cervix is a coagulum of blood formed, while the rest of the tampon is moistened by serum only. . . . Even after the application of the tampon all hope of stopping abortion need not be given up. The method of using the tampon just described by no means always increases uterine action; it occasionally happens that after its removal the hemorrhage ceases, the os uteri is again somewhat contracted, and pregnancy takes its normal course without further disturbance."

T. P.

Laceration of the Female Perinæum and Vesico-Vaginal Fistula. By D. HAYES AGNEW, M. D., Professor of Surgery in the University of Pennsylvania. With numerous illustrations. Philadelphia: Lindsay & Blakiston.

The first part of this volume was published in the first volume of the Pennsylvania Hospital Reports, 1868; the second in successive numbers of the Philadelphia Medical and Surgical Reporter. In consequence of frequent appli-

* The difficulty suggested by the author may be obviated by having the pieces of lint tied successively, like the "bobs" of a kite, to a piece of stout twine, leaving one end of the twine quite outside of the vagina.

cations for these papers they have been united "in their present form." The professional demand thus indicated is good evidence of the value of this work, even if the name and reputation of its able author were not sufficient assurance.

Before speaking further of the way in which Dr. Agnew has performed his task, let us say that that of the publishers is excellently done; the illustrations especially are to be commended; indeed, in an artistic point of view, they are unexceptionable. There has been, however, a lamentable carelessness in proof-reading, and many proper names are most improperly spelled; thus Dr. Bozeman is frequently Boseman, and once we believe Bozerman; and shall we call it careless proof-reading or careless writing that gives us such a sentence as this, "I have never but in a single instance seen an example of this kind"?

The first part of the work is devoted to the *history and treatment of lacerated perineum*. Dr. A., in discussing the prevention of the injury, after quoting various authorities as to *incisions* and as to the vexed question of *supporting the perineum*, advocates support with the naked palm. Should the accident occur, he strongly indorses an immediate operation. The *secondary* operation is fully described and illustrations given. The author gives Baker Brown's method and his own, the latter differing from the former in using sutures secured by perforated shot instead of by "quills," and in non-division of the sphincter ani. Fourteen cases of the operation by the author are narrated. This part of the volume is terminated with a tolerably complete bibliography of the subject.

Next we have *vesico-vaginal fistula, its history and treatment*. Would it not be better to use the expression *genito-urinary fistulæ in the female* as the *species*, the different *varieties* all being completely included under this head? For example, Dr. Agnew professes to write on *vesico-vaginal fistula*, and gives *urethro-vaginal* as one of the divisions; so too *vesico-*

utero-vaginal as another; but neither of these is, strictly speaking, a vesico-vaginal fistula. So too in the use of the general term he has excluded himself from the consideration of those cases where there is a direct communication between the bladder and the uterus as the sole lesion, between one of the ureters and the uterus, or between one of the ureters and the vagina.* All these varieties ought to be considered in connection with the different varieties of vesico-vaginal fistula.

We can speak in praise of Dr. Agnew's method of operating for vesico-vaginal fistula: his success has been most satisfactory. He gives all the details of the operation, accompanied with good illustrations and a narrative of interesting cases. Nevertheless we do not believe in the use of the scalpel to denude the fistulous margins; for this purpose we much prefer scissors, and we certainly like Emmet's needle better than Agnew's. But each must select for himself; what succeeds with one may fail with another. We cordially commend the work as interesting in its perusal and as a most trustworthy guide in the operations it discusses.

In discussing the *causes* of vesico-vaginal fistula Dr. Agnew mentions *foreign substances in the bladder*, and among these *vesical calculi*. Bouchut, in the last edition of his treatise on diseases of children (Paris, 1873, p. 722), refers to a case of vesico-vaginal fistula in a child, resulting from a calculus which had inflamed the *bas-fond* of the bladder and escaped by the vagina. This case was observed in 1872 by Dr. Cazin, and Bouchut remarks that it is the only instance he has ever known. Certainly such a case is worthy of being remembered, since vesico-vaginal fistula has hitherto been regarded as confined to the adult.

Two other curious instances mentioned by Sir James Simpson are worthy of record in a treatise such as Dr. Agnew's,

* In October, 1867, we reported in the *Western Journal of Medicine* a case of this kind—the only one, we believe, ever observed in this country. A few have been published in foreign journals.

in connection with the etiology of this lesion—one where a medical student punctured with a lancet the distended bladder, thinking he was puncturing the fetal membranes; the other where an abscess formed in the vesico-vaginal wall and opened alike into the bladder and into the vagina; the case, however, was cured without treatment.

Where the author presents the *history* of the methods of treating *vesico-vaginal fistula* we believe he has fallen into several errors, some of which we shall point out.

Dr. Agnew credits Jobert (p. 74) with "a very ingenious operation devised and executed;" namely, "transplantation of tissue." Dr. Churchill states* that it was suggested by Velpeau. Jobert performed his operation in 1835,† but Dieffenbach did a similar operation in 1830.

On page 75 Dr. Agnew describes the operation of Roonhuysen in 1663; then immediately leaves the historical order to refer to Lewzinsky in 1802, but who, like Roonhuysen, was innocent of any operation, though one would not *know* this from reading Dr. Agnew; then back to Völter‡ in 1679; to Nägele in 1812; in a little while to Le Roy (most know better as Le Roy-d'Etiolles), 1842; then to Schreger in 1817; next to Malagodi in 1829; soon to Gosset in 1834; but shortly falls back to Lewzinsky in 1802; puts Wützer (the printer has Wuther), 1841, before Dieffenbach, 1836, etc. Really it makes one dizzy to be thus hurried backward and forward through the years and the centuries. We can see no reason for such a mixed chronology.

Dr. Agnew states that "Ehrman recommended scarifying or cauterizing the edges, and then bringing them together with sutures." But Ehrman's method really was to bring the edges together with sutures, and then scarify or cauterize. Deyber (not Deybers, as it is given), says Dr. Agnew, "em-

* Diseases of Women, fifth edition, Dublin, page 741.

† In a paper entitled *Vaginal Fistules*, New York Medical Record, September 15, 1866, we have made reference to this same question of priority.

‡ Several of these names, by the way, are misspelled.

ployed a wooden catheter, introduced through the urethra, to control the edges of the opening while being subjected to the knife." No catheter at all; simply a solid piece of soft wood to hold under the tissue to be cut.

So too there are sins of omission that can not be overlooked. Among famous names omitted there are two that we think of just now as especially worthy of mention; viz., Metzler, who used the knee-and-chest position, and Simon, who has been one of the most successful of operators, and whose *peculiar* sutures ought to have been described.

We are given Sir James Simpson's operation, the wire splint included, without being told that Sir James in his later operations had abandoned that splint as useless. The operation of Collis is given, but the student of the subject will find that Collis was simply an imitator in 1862 of what Hayward had published in 1836 and Gerdy in 1841.

On page 105 we are shown a representation of an instrument made by Mr. Hilliard, of Glasgow, for holding the edges of large fistulæ while they are pared. This instrument seems but a slight modification of an instrument devised by Mr. Bryant, of London. We have a set of them made by Mr. Hilliard a good many years ago, which Dr. Agnew is welcome to try if he thinks there is any merit in them.

On page 104 Dr. A. describes with an illustration "a very ingenious instrument, the author of which I can not recall," etc. The inventor or "author" of this instrument was the late Dr. Banon, of Dublin, a gentleman of considerable professional eminence, who was, at the time of his decease in 1867, vice-president of the Royal College of Surgeons.

Now when the profession demand—as we hope they soon will—that Dr. Agnew shall be the inventor or author of a new edition of this work, we trust that it will be fuller on certain topics, and freer from some of the errors that, though neither numerous nor great in comparison with the merits, nevertheless are quite obvious in the edition before us.

T. P.

On the Function of the Eustachian Tube. By THOS. F. RUMBOLD, of St. Louis, Mo.

Dr. Rumbold has recently published an article, in pamphlet-form, "On the Function of the Eustachian Tube." His ideas, which are rather at variance with the teachings of authoritative otologists and physiologists, he puts in the form of six propositions, viz.:

1. That during the act of deglutition the Eustachian tube is not an open passage into the tympanum.
2. That the walls of the Eustachian tube are constantly in slight contact.
3. That the air continually permeates the Eustachian tube into the tympanum, thus maintaining the normal air in the cavity.
4. That the air in the normal tympanic cavity is not of equal density with that of the surrounding atmosphere, the air in the tympanum being rarefied.
5. That one of the functions of the Eustachian tube is the maintenance of the normal air density.
6. That the rarefied condition of the air in the tympanum is the cause of the uniform concavity of the membrana tympani, especially that portion of it from which the "light spot" is reflected.

Dr. R. cites numerous cases in confirmation of the views above given, some of which are quite conclusive. In his *resumé* he states "that, during the act of deglutition, the Eustachian tube is not an open passage into the tympanum has been sustained by the fact that the increased concavity of the membrana tympani of those patients that recover from the disability of their hearing, occasioned by patency of their Eustachian tubes, as compared with its curvature before their recovery. We have seen that after their hearing has been permanently increased the act of deglutition does not cause their membrana tympani to become less concave, as it did

before their recovery. Now as we know that they increased the concavity of their membrane by abstracting air from the middle ear, and as the closure of the tube was necessary to maintain this concavity, it is evident that if the act of deglutition opened the tube, this maintained curvature would be instantly released, allowing the membrane to become less concave; consequently give rise to the well-marked phenomena of patency, as it did in Mr. Toynbee's first case and my second."

He says further on that "it can not be admitted that the action of these muscles (*i. e.*, the tensor and levator palati muscles) allow *any* air to enter the middle ear. If this was the case, then frequent acts of deglutition would make the air-douche needless, and that the continued exercise of this faculty would increase the hearing until the one-sided pressure on the membrana tympani was neutralized and its normal position attained. Nor would it be correct to assert that their middle ears did not receive any air, as this would cause them to be as deaf as cases afflicted with acute tubal catarrh."

Dr. R. seems to forget that the beneficial effects derived from the use of Politzer's apparatus do not only consist in forcing air into the tube and middle ear, but that the pressure exerted on the ossicula auditus and membrana tympani is also a cause of the improvement in hearing. We would like to ask whether in catarrhal affections the tube is quite permeable, and whether its muscles can then act physiologically?

The second proposition is and has been the subject of much discussion. Rudinger, in his able article on the Eustachian tube published in Stricker's Manual of Histology, has been unable to determine the question with absolute certainty, but thinks that it is constantly open, owing to the presence of a capillary slit found in its upper part.

The third proposition is ably put and undoubtedly true, nor are we disposed to doubt the correctness of the fourth proposition.

We are not convinced, however, of the truth of the sixth proposition by the argument employed by Dr. R., that patients suffering from an abnormally open Eustachian tube could restore the concavity of their membrana tympani by resorting to a forced inspiration, or by means of swallowing with compressed nostrils.

Dr. R. appears to think that the air contained in the middle ear is the only factor concerned in the concavity of the membrane, and especially that portion from which the "light spot" is reflected. We think that the elasticity of the membrane, the inclination of it to the external auditory canal, the traction of the malleus and the muscles of the middle ear, and the polish and brilliancy of the membrane are also of some import.

As a whole, the author is deserving of praise, for he does not hesitate to express his disbelief in some of the expressed theories on the functions of the Eustachian tube. We must leave it to more exact observers to determine who is correct.

R. C. B.

An Investigation concerning the Mechanism of the Ossicles of Hearing and the Membrane of the Round Window. By CHAS. H. BURNETT, M. D., of Philadelphia.

This very interesting pamphlet is based on experiments made in the Physiological Institute of the Berlin University under the eye of Prof. Helmholtz, and the reviewer can bear testimony both to the assiduity and ingenuity of Dr. B., having had the pleasure of that gentleman's acquaintance during his sojourn in Berlin. The deductions drawn from Dr. Burnett's elaborate experiments are:

1. The excursions of the chain of ossicles of hearing bear a fixed relation to each other.
2. The excursions of the ossicles of hearing are communicated through the labyrinthine fluid to the membrane of the round window.

3. The excursion of the membrane of the round window generally equals that of the stapes; but it may equal that of the membrana tympani at the point of the manubrium mallei.

4. The pressure within the labyrinth, increase beyond certain limits, causes cessation of the action of the membrane of the round window and the chain of ossicles of hearing. This occurs sooner in connection with high notes than with the lower notes of the scale.

5. If the labyrinthine pressure is greatly diminished or totally removed, the chain of ossicles may continue to vibrate, but they exert no influence upon the membrane of the round window.

The ideas expressed in these deductions are correct in the main, Prof. Helmholtz having indicated their truth in his exhaustive treatise on the mechanism of the ossicles of the ear and the membrana tympani, published in Pflüger's Archive for 1869.

R. C. B.

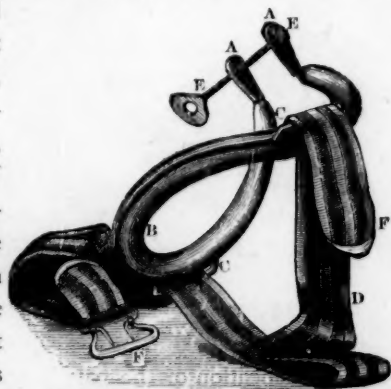
Evidences of Life in the Newly-delivered Child. By
WM. B. ATKINSON, M. D., etc. Philadelphia.

Dr. Atkinson's brief monograph had its origin in his having recently been asked as to the fact of a child having life at delivery, in a case involving a large estate, and his thereby being "led to investigate the subject and collate the views and opinions of authorities on this delicate and important point." His conclusion after the investigation and collation is this: "We are firmly of the opinion that a large number—perhaps even a majority—of those reported among the still-births were living, even breathing, for an appreciable interval after their complete separation from the mother."

Clinic of the Month.

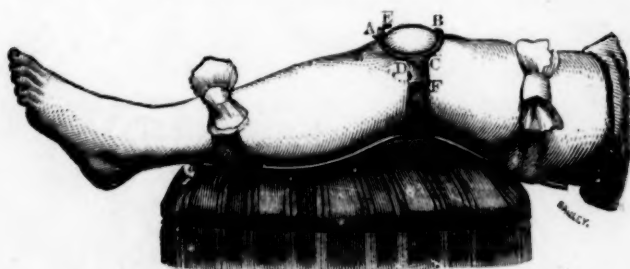
O'REILLY'S PATELLA SPLINT.—In answer to several inquiries concerning patella "braces" or "splints," we give below a description of an instrument devised, in 1871, by Dr. P. S. O'Reilly, of St. Louis, Mo., which has been successfully used both by its inventor and other surgeons in fractures of the patella.

The splint consists of a piece of rounded, tempered steel, oval or horse-shoe shape, with the ends turned in and bent upward. The sides are depressed so that the part corresponding with the toe (B) of the shoe is curved upward to the extent of about half an inch, allowing it (the toe) to ride over and upon the ligaments of the rectus muscle, while the sides dip downward and embrace the bone; and at the same time the splint, by pressure at the insertion of the vasti muscles, counteracts the action of the latter; and nevertheless does not by undue pressure upon the tendon of the rectus muscle cause the fragment to tilt up at the point of fracture, as necessarily results when the pressure is made on this tendon alone, as in the use of the simple ring. On the sides, slightly anterior to a line through the center of the oval or horse-shoe part, are fixed



Dr P S. O'Reilly's Patella Splint

ears or loops (C) for the reception of the band (D), by which the shoe portion of the splint is held in position. Through the turned-up end of that portion corresponding with the heel or calk (A) of the horse-shoe is a thumb-screw (E), by which the splint is compressed or expanded as may be required. The splint being covered with chamois or soft felt, and a strap of silk or linen webbing (D) or smooth leather, with a buckle (F) on one end, the free end of the strap is made to pass through one of the ears, rendering it complete for application. The injured limb being laid upon one of Day's curved posterior splints, well padded, and a little wider than the leg, secured at each end by a handkerchief or roller bandage, the fragments being then brought into position, the patella splint is placed over and made to encircle them. The strap (D) is carried under the leg and around Day's splint, and run through the opposite loop or ear, and returned upon itself and buckled (F) sufficiently tight to keep the splint in position, but not so much so as to inconvenience the patient more than is necessary. The thumb-screw (E) may now be used either to tighten or relax the splint.



Dr. P. S. O'Reilly's Patella Splint applied.

In dislocation of the patella upward, in the rupture of the ligamentum patellæ from the tuberosity of the tibia, by an elastic strap attached to the ears or loops and passed under the sole of the foot may be secured the most perfect approximation of the parts. The ears or loops should be of hard

steel and extend a quarter of an inch from the body of the splint, so as to keep the strap well out from the leg, avoiding pressure, constriction, etc.

TREATMENT OF ACUTE PNEUMONIA.—Lebert states (*Ber. Klin. Woch.*), as the result of his own observation, that venesection and tartar-emetic moderate the febrile condition by diminishing the lateral pressure in the vascular system, tartar-emetic possessing the advantage of not depriving the system of blood. On the other hand, neither of them has any power to cut short pneumonia or to interfere with its development, and are not to be regarded as direct antipyretics. The usually short duration of the febrile symptoms in pneumonia, the remissions which occur in its course, and the rapid fall of temperature about the end of the first week, all have a tendency to induce physicians to form exaggerated estimates of the value of therapeutic measures. By no method of treatment can the critical period be hastened by an hour.

With regard to digitalis, Lebert adopts Traube's view, that the distinct lowering of the pulse and temperature brought about by its administration is owing to its power of slowing the circulation through its influence on the vagus. He points out the risks of formidable depression which are incurred by its use in large doses. In moderate doses it gives some relief to the fever and dyspnoea. Veratria is found not to give better results than those obtained by the expectant treatment. Quinia is the best antipyretic, and can be given in full doses with much less risk of toxic effects than digitalis or veratrum. It produces, when given to the extent of thirty grains in the twenty-four hours, a sedative effect. The temperature is lowered and the pulse diminished in frequency; but, as had already been pointed out by Vogt, the pulmonary affection undergoes no diminution, and the diminution of the temperature is light and transitory. In the form of pneumonia occurring in alcoholism and in typhoid pneumonia

a tranquilizing effect was produced on the nervous system by its administration.

Cold baths have not been tried by Lebert in a sufficient number of cases to enable him to speak definitely regarding their value. He found them powerful agents in diminishing fever, observed that they were well borne in the disease, and that even in cases of lung inflammation in connection with alcoholism rest was obtained by the patient under their influence. He regards them as powerful means of alleviating severe cases, but as not applicable in cases of pneumonia generally.

Nitrate of potash has in Lebert's hands produced such inconsiderable results that he has altogether ceased to employ it for some time, the more especially since it occasionally was found to produce unpleasant gastric symptoms. Acetate of lead and chloroform inhalations have not been found to possess any real therapeutic value. Brandy does good service in the disease when occurring in drunkards, but otherwise is not of general utility.

After a complete and searching critical examination of these different methods, Lebert proceeds to lay down the bases of the rational therapeutics of the disease. The patient ought to remain in bed, in a condition of quiet, with moderate warmth, and perspiration ought not to be encouraged. He ought to speak as little as possible, and drink neither too cold nor too hot fluids. In very weak patients ether or small quantities of wine may be given with advantage. When the fever abates, seltzer water with milk may be given; and if the appetite is bad, bitters may be prescribed. In the absence of any definite indication it is better not to administer any medicine.

Indications for venesection are—pulse full and hard, or small and resisting, with marked dyspnoea, and a cyanotic condition of the patient, all of which point to great embarrassment of the pulmonary circulation. If there be rapid

spread of the inflammation, marked cerebral symptoms, and distension of the jugular veins, blood-letting is imperatively necessary. But this expedient is absolutely contra-indicated in secondary pneumonia, in the typhoid form, in that arising in drunkards, and in epidemic or malarious forms of the disease.

When dyspnœa depends not on congestion of the lungs, but on excitability of the nerves, opium or quinia are to be administered. If opium check expectoration, then quinia is to be substituted, especially when disproportionately high fever and tendency to typhoid symptoms exist. If an anti-pyretic effect is not produced by the use of the quinia, then cold baths may be tried, especially in the typhoid and alcoholic forms of the disease. If local pain be considerable, cold applications may be made to the chest, or small doses of opium or Dover's powder may be exhibited. If the expectoration be not ejected, tartar-emetic or ipecacuanha are to be administered; in tendency to collapse, ammonia, camphor, or benzoic acid may be prescribed; in profound nervous depression, stimulants and musk. He recommends four parts of musk with two parts of carbonate of ammonia in sixty parts of rectified spirit and twenty parts of distilled water, with four drops of oil of peppermint. During convalescence no medicines are commonly required, and all that is necessary is to caution the patient against premature exertion and to prescribe a proper dietary.

Jürgensen (*Volkmann's Samm. Klin. Vor.*, No. 45) believes that the great danger to the patient in pneumonia is from insufficiency of the heart. This depends on the increased resistance in the pulmonary circulation, on the infiltration of the lung, which lessens its power of assisting in the general circulation, and on the diminished superficies available for respiration, all of which lead to increased demands on the functional activity of the heart. On the other hand, the elevation of temperature which occurs in the disease increases

the frequency of the pulse at the very time that the muscular structure of the heart is weakened. The pulse accordingly is the great guide to the treatment of the disease, just as in fever the axiom "*sine thermometro nulla therapia*" holds good; so in pneumonia "*sine pulsu nulla therapia*" is an important maxim. The most efficient method of preventing the enfeeblement of the heart consists, according to Jürgensen, in the withdrawal of heat from the body by cold baths as often as the temperature reaches 104° . The duration of the bath ought to be from seven to twenty-five minutes, and with the old and weak tepid water may be used. Before the use of the bath a stimulant ought always to be administered on account of the increased effort which the bath entails on the heart for the time being.

In addition to the lowering of the temperature by the bath, Jürgensen recommends the administration of quinia in doses amounting to thirty grains, dissolved in water by the aid of acid. This quantity is to be administered every second evening between six and eight o'clock. There is no danger in even doubling this dose. He gives a nutritious diet, with a moderate amount of wine. Pain in the side and sleeplessness he treats by subcutaneous injections of morphia; restlessness and delirium by chloral.

If in spite of the treatment cardiac weakness supervene, he gives stimulants freely; strong wines, champagne, spirits, camphor, or musk. During recovery he gives reduced iron and bark; and if absorption of the inflammatory products be delayed, he strongly recommends oil of turpentine, which is to be administered in doses of twelve drops, either in milk or in capsules, six times daily. By this method Jürgensen has lost only twenty-four patients out of two hundred who suffered from the disease. (Dublin Journal of Medicine.)

TREATMENT OF CATARRHAL JAUNDICE BY FARADIZATION OF THE GALL-BLADDER.—Gerhardt has found the treatment

of jaundice from catarrh of the ducts by faradization of the gall-bladder successful in a number of instances, and thinks it is analogous to the reduction of a hernia by the taxis. The position of the distended gall-bladder can be made out by the touch. It is even sometimes visible, and percussion along the lower margin of the liver enables us to identify its position with ease. An electrode of a strong induction apparatus is placed on the organ and firmly pressed upon it in the direction of the posterior wall of the abdomen. The second electrode is suddenly applied to the opposite point of the posterior wall of the abdomen. This process is repeated in rapid succession. Occasionally the gall-bladder becomes immediately apparently less, and bile will frequently re-appear in the stools within two days. It has been noticed that the renal nerves become stimulated by this application, and that during the succeeding days urine of a paler color and lower specific gravity is voided. Sometimes it is necessary to repeat the application of the galvanism in consequence of the dullness corresponding to the distended gall-bladder becoming again recognizable. (*Ibid.*)

REPLANTATION OF TEETH.—Replantation of teeth for acute and chronic periodontitis was suggested by Mr. Coleman after seeing the same remedy succeed for acute inflammation of the pulp of a lower molar tooth, which had resisted every known kind of treatment. The principal objection urged against replantation of teeth is that if a tooth is extracted it must necessarily lose its vitality, and therefore the fangs undergo absorption, so that after a time it becomes useless and must be extracted. Supposing the objection to be valid, as absorption is a long process, sometimes extending over years, it will have been a greater gain for a patient to retain his tooth for an indefinite period than to lose it entirely and at once; but it is no more necessary that a tooth, after undergoing extraction and replantation, should lose its vitality than

for a long bone to do so after fracture, with stripping back of the periosteum.

The manner of performing the operation is as follows: A tooth which is to be replanted should be carefully extracted, and as little as possible of the surrounding tissues lacerated. It should then, unless the operation be simply for the destruction of the dental pulp, and where the periosteum is healthy, be immersed in some antiseptic fluid, such as diluted carbolic acid or chloride of zinc (the latter from experience being preferred.) The socket should then be swabbed out some half dozen times with a strong solution of the same antiseptic employed. The tooth, if carious, should be plugged and returned to its place. If there is any thickening of periosteum, fibrous growth, sac of abscess, or absorption at extremity of fang, it should be excised before replantation. Should the patient complain of pain arising from the operation, prescribe poppy fomentations, although the pain is rarely more than what is due to the tenderness of parts from laceration of soft tissues after the extraction of the tooth.

Out of twelve cases that Mr. Coleman has operated on within the last four years, nine are successful and three have failed. The failures have but one significance, and that is, teeth to undergo replantation must be selected. In a cachectic patient the chances are against success; when a tooth has lost the support of its fellows on both sides it can not become firm. Nevertheless the successful cases warrant a further trial of replantation, which would preserve many teeth otherwise sacrificed. (*Lancet.*)

MINT FOR THE SUPPRESSION OF THE MILK.—Dr. Dasara observes that the knowledge of the antilactiferous properties of mint appears to have been possessed in very ancient times, since Dioscorides mentions the fact in his works, and subsequent writers have only confirmed his statement. Linnæus observed that cows that ate mint in their pastures yielded a very

serous milk, and Laewis affirmed that the coagulation of milk in which some leaves of mint were placed was retarded. More recently M. Desbois de Rochefort, experimenting on mint, found that fomentations of mint applied to the breast, and the infusion taken internally, were capable of suppressing the lacteal secretion, and of preventing the usual accidents attending milk fever in puerperal women. Trousseau expressed some doubt respecting this action of mint in his Treatise on *Materia Medica*; but Dr. Pasquale Pepre, in a note on Trousseau's observation, remarks that the fresh leaves of mint placed in the axilla are commonly used in Naples to suppress the milk. Dr. Dasara determined to experiment for himself, and gives the details of a series of cases in which he tried the effects of the application of mint poultices made from the young sprigs at various periods of lactation, and the following are the conclusions at which he has arrived:

1. It is an established fact that mint has the power of suppressing the lacteal secretion;
2. The suppression of the secretion takes place at whatever period of lactation the mint is employed;
3. The effect takes place in a very short space of time, according to his experiments in from three to five days;
4. The suppressive action of mint can be localized to one breast;
5. No danger nor even any inconvenience arises either to the mother or child either from the use of the mint or from the suppression of the secretion.

Signor Dasara nowhere states in his paper the species of mint he employed. The omission is to be regretted. (*Rivista Teorico Practica.*)

ON CLEFT PALATE.—T. P. Pick, Esq., records (St. George's Hospital Reports) eleven cases of this defect, with an account of the operation in each. In connection with the subject of hemorrhage, Mr. Pick says a free amount of bleeding during the operation is rather a favorable symptom than otherwise; that in those cases where the bleeding is free union will be found much more perfect than where the parts are anæmic

and bleed more slightly. The hemorrhage, he adds, is rarely so excessive as to produce any serious effect either on the union of the wound or the health of the patient. Mr. P. does not favor the early operation, but believes it advisable to delay cutting as long as possible; *i. e.*, "as long as there is no fear of the child's acquiring defective articulation." Silk sutures were used for the soft palate and silver for the hard, Mr. P. thinking the former more manageable than any other, more easily introduced, more readily secured, and much less likely to slip. He uses a perfectly pure silk, plaited instead of the ordinary twist. He allows the sutures to remain for eight days, and except in a single instance, when one of them produced a little irritation, has found no inconvenience from them. The after-treatment consists in giving as much *fluid* nourishment as the patient will take, with a fair allowance of wine, Mr. P. believing that to obtain good union it is of the first importance to keep up the patient's strength.

Notes and Queries.

HEMATEMESIS TREATED BY MONSEL'S SOLUTION.—Three years ago Dr. L. J. Woollen, of Vevay, Indiana, reported for "Notes and Queries" a case of hematemesis relieved by persulphate of iron solution. He now writes that, having had the good fortune since that time to treat several other cases of the affection with the iron, he feels "almost warranted in saying that to arrest hematemesis Monsel's solution is *the* remedy." He adds:

"At first I was in doubt with regard to the size of the dose, the only guide I had being the statement of Ellis, of Philadelphia, that four minims might be given if largely diluted with water. I was fearful that the medicine might prove irritating to the stomach, and hence was at first a little nervous about enlarging upon the four-minim dose. Repeated trials, however, have convinced me that the solution, if properly diluted, does not irritate or derange the stomach—not even as much as the common muriated tincture of iron—and that it may, if necessary, be given in doses of say forty drops mixed with a third of a tumbler of water every two or three hours. In ordinary cases it is not necessary to give more than from ten to fifteen drops diluted with a wine-glassful of water; but if the hemorrhage is persistent and alarming, the dose should be increased until the desired effect is produced.

"Nor is it alone in hematemesis that the good effects of Monsel's solution are apparent. I know no drug which is its equal in some cases of chronic diarrhea. For instance, when chronic diarrhea manifests itself in a patient with impoverished blood, or who has been the subject of malarial disease, the

iron will seldom fail to be of great advantage. In amenorrhœa associated with an anæmic condition of the blood I have found no single remedy equal to Monsel's solution in doses of ten drops three times a day. I have not used the persulphate of iron in hemoptysis, but believe that when reduced to an impalpable powder and used by insufflation, or the solution in atomization, it would often succeed in arresting the bleeding. Dr. Wetherby, of New York, reports a case thus treated with success in the American Journal of Medical Sciences for July, 1866.

ANOTHER HEMOSTATIC.—Dr. A. Given, of this city, writes us that in pulmonary hemorrhage he has found no agent equal to the witch-hazel (*Hamamelis Virginica*). He gives it in the form of fluid extract (Tilden's), though he says a strong decoction is almost equally efficacious. It seems speedy and safe in its action, though it is so powerful an astringent that laxatives are demanded if it be given for any length of time. Dr. G. mentions among others the following cases, which will serve to illustrate the mode of using and behavior of the drug:

"Case 1. A patient with alarming hemoptysis, to which he had been subject, took a tea-spoonful of the fluid extract of *ham. virg.* In less than ten minutes the hemorrhage diminished and soon ceased. The medicine was taken three times a day for a fortnight. Some weeks after the patient died from hemoptysis before aid could reach him.

"Case 2. A young lady, aged eighteen, spit blood every two weeks during a period of two years. In a more than ordinarily severe attack the hemorrhage was quickly arrested by a dose or two of the witch-hazel. The medicine was then administered first three times a day, then once a day for several months; since which time, now two years ago, she has had no trouble.

"Case 3. A maiden lady, the subject for several years of hemoptysis, took in one of her seizures opium, lead, turpen-

tine, and some other remedies without avail. The bleeding continued throughout the night, and was more profuse on the following day. I now administered the witch-hazel in doses of a tea-spoonful every twenty minutes. The hemorrhage ceased after the third dose."

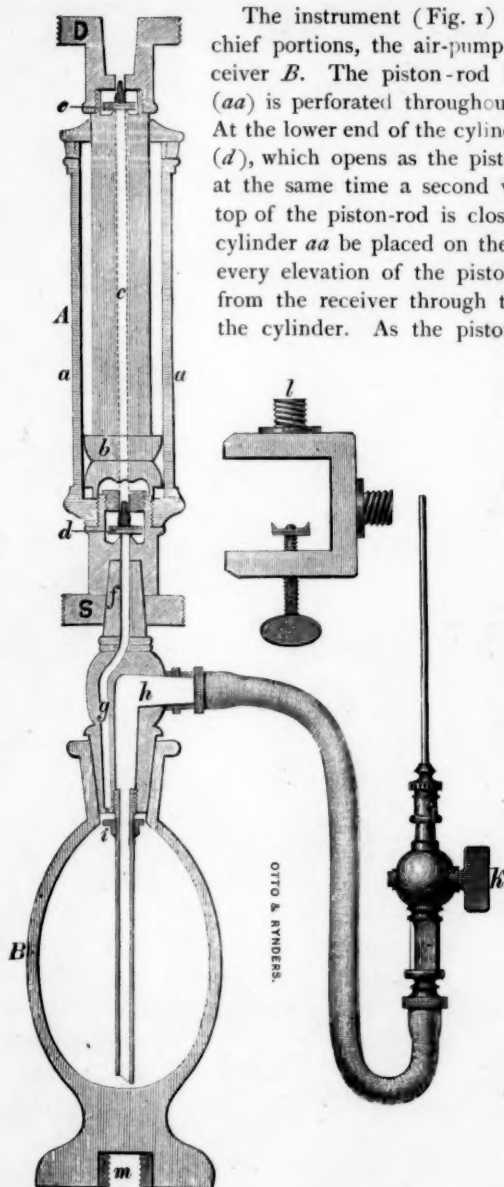
EMPYEMA—PARACENTESIS THORACIS—RECOVERY.—M. H. Alderson, M. D., of Bath, Ky., communicates this case: "Philo Howe, twenty-seven years of age, and of rather delicate constitution, was attacked February 25th with right pleuropneumonia. Convalescence was established in two weeks, and I did not see him again until the 1st of April, when I found him suffering with great distension of the right pleural cavity; the right side of the chest was œdematous, as well as the feet and legs. Hydragogues and diuretics were administered without benefit; and as the oppression in breathing was so great, on the 30th of April, assisted by Dr. Shaw, of Bath, I performed paracentesis, giving exit to six pints of pus. Tonics and stimulants were directed. On the 5th and also on the 16th of May the tapping was repeated, the discharge each time being as great as at the first. The last time before withdrawing the canula I introduced a rubber catheter through it; then withdrew the canula, bent the external portion and fastened it by adhesive plaster to the chest, and thus secured a continuous drainage for the fluid of the cavity. The discharge, varying in quantity from a few ounces to a pint daily, continued until June 20th, when, as it was scanty and entirely serous, I withdrew the catheter, and the aperture soon closed. Since then the man has been able to work as a farm-hand, and seems entirely well."

REMEDY FOR CHRONIC HOARSENESS.—An eminent physician of Philadelphia contributes the following: In chronic hoarseness arising from thickening of the vocal chords and adjacent membrane the ammoniated tincture of guaiacum is often a very

efficacious remedy. It may be appropriately mixed with equal parts of the syrup of senega, and a tea-spoonful of the mixture given two or three times a day.

THE TRUE CREED.—“In the present day it has become too much the fashion to decry the powers of remedies when their influence is obscure or their mode of action unintelligible. To a certain extent my sympathies go with the movement, because I have long felt that the evidence on which the rules of practice are based is extremely defective. In some instances a theory is propounded which has never been brought to the test of a logical proof; in other cases the merest empiricism guides our treatment, having no basis either of pathological or physiological causation to justify its adoption; more than all, the enumeration of a certain number of successful cases is supposed to be sufficient proof of the advantage of a certain method of treatment, when they neither satisfy the numerical nor the inductive method of arriving at truth. At the same time I do hold to the belief that medicine rightly used has a power to counteract the events and processes of disease, and it should be the aim of every physician to ascertain, so far as he can, what powers medicinal agents possess of this kind, and what processes are injurious and may be counteracted with benefit to the patient.” (Dr. Barclay.)

A NEW INSTRUMENT FOR ASPIRATION AND INJECTION.—We are indebted to Otto & Rynders, of New York, for the following brief description and illustrations of an instrument which its inventor, Joseph Leiter, of Vienna, claims will fulfill the following uses: transfusion; removal of secretions and exudations from the larynx; removing the contents of the stomach, or placing food in it; evacuating the bladder; for enemata; injecting preparations, or for embalming producing local anæsthesia; removing milk from the breast, or for cupping.



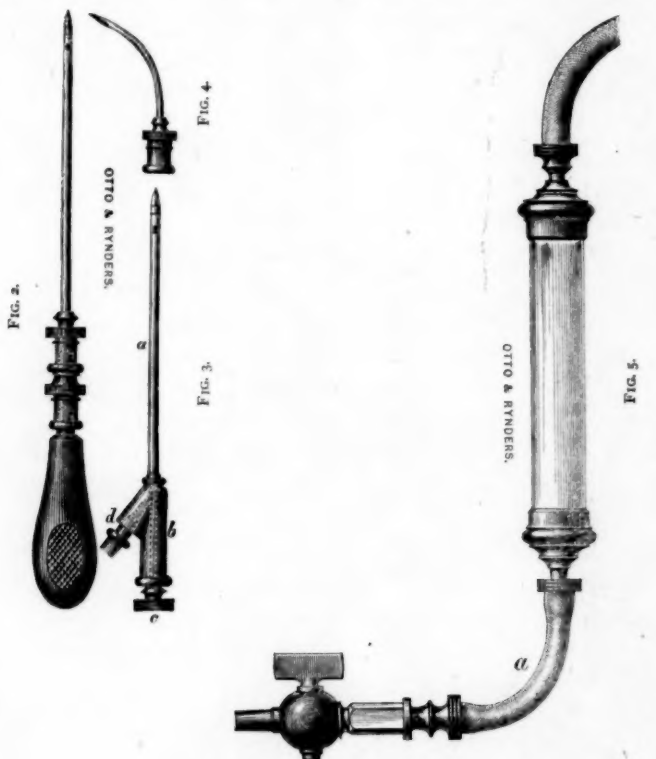
The instrument (Fig. 1) consists of two chief portions, the air-pump *A* and the receiver *B*. The piston-rod in the cylinder (*aa*) is perforated throughout its length (*c*). At the lower end of the cylinder *aa* is a valve (*d*), which opens as the piston is drawn up, at the same time a second valve (*e*) at the top of the piston-rod is closed. If now the cylinder *aa* be placed on the receptacle at *f*, every elevation of the piston draws the air from the receiver through the canal *g* into the cylinder. As the piston is pushed in,

the air passes out through the canal *c*; so that continued working of the piston may greatly rarefy the air in the receiver.

To pump air *into* the receiver, the piston-rod must be attached to the top of the receiver, and the cylinder must be moved so the valves work in the opposite direction, the air drawn in through *d* being driven in through *e*, and its escape prevented. To prevent mistakes in applying the pump to the receiver, one end

is marked Saug-V. (suction valve), the other Druck-V. (pressure valve).

For sucking in fluids, forcing them out, or employing compressed air, a tube is inserted into the stopper of the receiver communi-



Small Glass Tube for Exploration.

ating with the canal *h*, and reaching to the bottom of the receiver. To the end of the canal *h* is screwed a caoutchuc tube fifty cm. long, with a conical point, which is inserted into the different instruments. A stop-cock (*k*) may be attached here. At the inner end of this tube there is a floating valve (*i*), which only closes the canal *g* when the receiver becomes too full of fluid, so as to prevent its

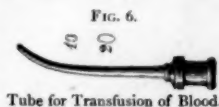


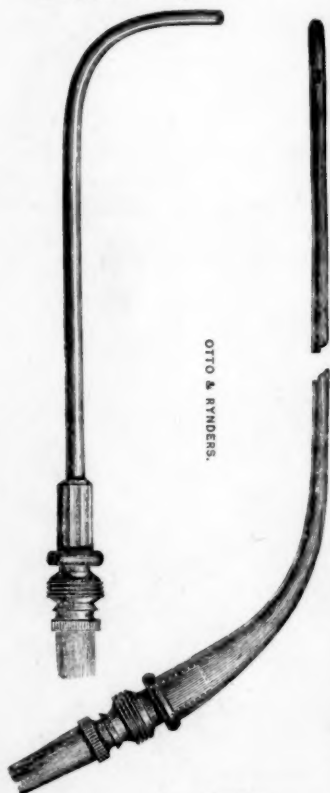
FIG. 6.

Tube for Transfusion of Blood.

entrance into the pump. By screwing *l* into *m* we attach a clamp, by which we may fasten the apparatus to a table or other object.

FIGS. 7 AND 8.

Tube for removal of Mucus and Membranes from Larynx.



Stomach Tube.

The air-pump and other parts, except the glass receiver, are made of hard rubber, so that nothing further is required to secure air-tight closure of different parts. The air-pump and receiver are united air-tight by merely pressing them firmly together. The material also permits the better cleansing of the instrument.

Removal of Fluid from Abscesses, etc.—The air may first be rarefied, and the stop-cock opened when the trocar introduced into a cavity has been attached; or the cavity may be gradually evacuated while the stop-cock is open, and the air rarefied afterward. Either way the fluid flows into the receiver, but by the first plan the rapid suction may draw a plug of pus into the canula; or if a lance-shaped canula be employed, a blood-vessel may be injured. It is also possible that instead of preventing the entrance of air into the cavity, if the skin around the puncture be thin, air may enter around the canula when part of the fluid has been

evacuated, and the amount of rarefied air in the receiver is no longer proportionate to the evacuated fluid. In such a case the action of the external atmospheric pressure would continue till the air in and outside of the cavity were of equal density; that is, till air had entered the cavity. This accident may be avoided by pumping out gradually.

Fluid collected in the receiver may be emptied out by removing the stopper.



FIG. 9. Tube for emptying the Bladder.



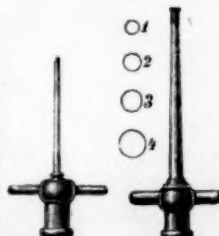
FIG. 10. O'Burns's Rectum Tube.



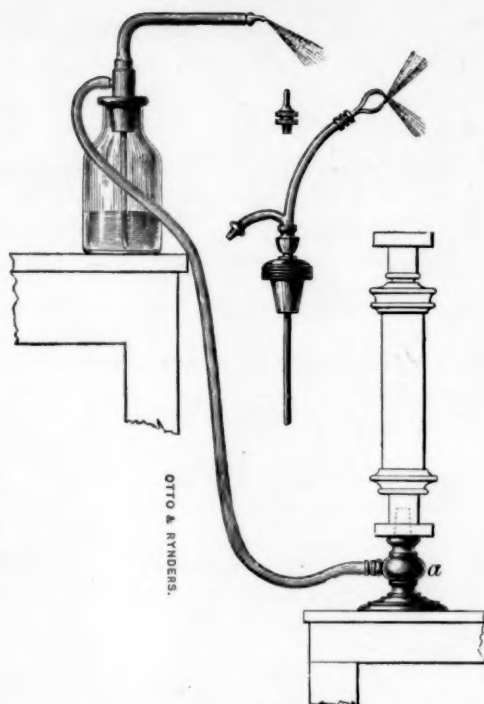
FIG. 11. Injecting Tube.

FIG. 12. Female Tube.

The trocars may be ordinary ones, or after Professor Billroth's pattern. The latter consists of a canula (*a*) with a uniting piece (*b*) attached, through which the cylindrical trocar *c* passes air-tight. At the lower end an opening (*d*) communicates at an angle with the canula, and at this point the pump is attached. The trocar is to be withdrawn to *d* after the pump has been attached; the entrance of air is thus prevented.



FIGS. 13 AND 14. Tubes for embalming Dead Bodies.



FIGS. 15, 16, AND 17 Aspirator connected with the Atomizer.



FIG. 18. Cupping Glass.



FIG. 20. Breast or Milk Glass.

THE DEAD HEROES.—At a meeting of the members of the medical profession held in Memphis, Tenn., on the 7th of November, 1873, Dr. J. H. Pittman was called to the chair, and Dr. E. Miles Willett appointed secretary. Dr. A. Erskine, Dr. B. W. Avent, and Dr. W. V. Taylor, having been selected as a committee for the purpose of presenting resolutions expressive of the sentiments of the assemblage, reported the following, which were unanimously adopted:

Whereas, it has pleased Almighty God, the Great Ruler and Arbiter of the destinies of men, to visit our city with a malignant pestilence, which has swept away in its desolating march seven of our professional brethren and friends—viz., Drs. Crone, Minor, Kennon, Hatch, Blount, Freeman, and Williams—therefore be it resolved:

1. That we who have been so fortunate as to have passed safely through its ravages do deplore and mourn their fall with a true and manly sorrow.

2. That in their deaths the medical profession of Memphis and the profession throughout the land have sustained losses immeasurably great.

3. That we feel a common sympathy and a personal affliction, the result of a common sorrow, and the rupture of the tenderest ties of sympathy and love.

4. That humanity, affected and bereaved, weeps over their fall; on its altar they with manly devotion laid down their lives.

5. That the city of Memphis could have sustained no greater sacrifice than the death of her noble and gifted physicians.

6. That we tender to the families of the deceased our sincerest sympathies in their irreparable loss.

7. That a copy of these resolutions be forwarded to them, and to the Nashville Medical Journal and American Practitioner for publication.